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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/940,460	08/29/2001	Tatsuhisa Chikada	P21398	5050
7055	7590	03/09/2004	EXAMINER	
GREENBLUM & BERNSTEIN, P.L.C. 1950 ROLAND CLARKE PLACE RESTON, VA 20191			DOVE, TRACY MAE	
			ART UNIT	PAPER NUMBER
			1745	

DATE MAILED: 03/09/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/940,460

Applicant(s)

CHIKADA, TATSUHISA

**Examiner**

Tracy Dove

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 November 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7 is/are rejected.
- 7) ☒ Claim(s) 8 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 August 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

This Office Action is in response to the communication filed on 11/12/03. Applicant's arguments have been considered, but are not persuasive. Claims 1-8 are pending. This Action is made **FINAL**, as necessitated by amendment.

Claim Objections

Claims 1 and 8 are objected to because of the following informalities: the claims recite improper language. Examiner suggests the claims be amended to recite "either one of in series or in parallel". Appropriate correction is required.

Claims Analysis

The specification defines a strut as a support for the case of the battery pack the is equal in height to the battery case frame. A strut prevents a pressing force from being applied to the secondary batteries (page 10, lines 3-8 of specification).

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1-7 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for a battery pack having a case having at least one strut extending from the case into a spacing between secondary batteries where electrode terminals are not provided, does not reasonably provide enablement for a battery pack having a case having at least one strut extending from the case into a spacing between the secondary batteries defined by an electrical insulating plate (where electrode terminals are provided). The specification does not enable any

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person skilled in the art to which it pertains, or with which it is most nearly connected, to make or use the invention commensurate in scope with these claims. The Figures show a spacing W where the struts 22 are provided. The struts 22 are not provided in the space defined by an electrical insulating plate 5 connecting surface of the secondary batteries where electrode terminals are provided. Specifically, the insulating plate 5 defines a space between the top surface of at least a first battery and the bottom surface of at least a second battery. The struts are provided between the side surfaces of the first and second batteries.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1 and 5 are rejected under 35 U.S.C. 102(b) as being anticipated by Thiele et al., US 4,593,461.

Thiele teaches a battery pack including a plurality of cells arranged in parallel (see figures) having a connector means for electrically connecting each of the cells in series (col. 3, lines 9-12). The connector means includes conductive strips 26. Nonconductive washer members 38 insulate each cell in the stack from the aligned other cell in the stack (col. 3, lines 15-58). The cells are contained in a housing structure. See the Figures. The housing structure 35 for insulating and separating the cells from each other includes a partitioning means (strut). The partitioning means may include four partitioning walls 36 extending across the housing

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means 35 for separating adjacently aligned cells. The partitioning walls are flexible yet provide substantial structural rigidity against compression of the housing means (col. 3, lines 31-50).

Thus the claims are anticipated.

Allowable Subject Matter

Claim 8 would be allowable if rewritten or amended to overcome the objection set forth in this Office action.

Claims 2-4, 6 and 7 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, first paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: claims 4 and 8 are directed toward a battery pack having a plurality of secondary batteries disposed in parallel and electrically connected in series or in parallel. The battery pack includes an electrical insulating plate for connecting surfaces of the batteries where the electrode terminals are located. The number of batteries is an odd number ($n+1$) and the electrical insulating plate is on an end part of an assembly of an even number (n) of batteries connected to the remaining battery.

The prior art does not teach the battery pack construction of claim 4. Specifically, there is no motivation in Aoi et al. WO 00/46865 to modify the plurality of cells of the battery pack to reach the battery pack structure of claim 4. Adding a single cell to the end part of the plurality of batteries of Aoi and connecting the single cell to the rest of the batteries with an insulator would destroy the teachings of Aoi.

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Aoi does not teach a strut between the side surfaces of adjacent batteries contained in the battery pack. Aoi teaches a connecting bar 23 and retaining piece 24, however, these elements are not considered struts because they are not the same height as a case of the battery pack and do not prevent a pressing force from being applied to the secondary batteries.

Response to Arguments

Applicant's arguments filed 11/12/03 have been fully considered but they are not persuasive.

The objections to claims 2 and 4 have been withdrawn. The objection to claim 1 is maintained. As properly pointed out by Applicant, MPEP2173.05(h) states that members of a group may be recited in the conventional manner or alternatively. Thus, claims 1 and 8 should be amended to recite "either one of in series or in parallel". Specifically, if applicant uses the language "selected from the group consisting of" the members of the group are closed with "and", when using alternative language the members of the group are closed with "or" (for example; 'wherein R is A, B, C and D' is not proper because the members of the group are closed with 'and').

The rejections in view of Aoi et al. (WO 00/46865) have been withdrawn.

The rejections in view of Mabuchi et al. (US 3,923,549) and Verdier et al. (US 4,576,880) have been withdrawn.

The rejection in view of Thiele et al. (US 4,593,461) has been maintained. Thiele teaches the cells of the battery pack are contained in a housing structure. See the Figures. The housing structure 35 for insulating and separating the cells from each other includes a partitioning means (strut). The partitioning means may include four partitioning walls 36 extending across the

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housing means 35 for separating adjacently aligned cells. The partitioning walls are flexible yet provide substantial structural rigidity against compression of the housing means (col. 3, lines 31-50). Thus, Thiele does teach the “at least one strut” of the instant invention.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tracy Dove whose telephone number is 571-272-1285. The examiner can normally be reached on Monday-Thursday (9:00-7:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Pat Ryan can be reached on 571-272-1292. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

February 27, 2004


Patrick Ryan
Supervisory Patent Examiner
Technology Center 1700